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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/854,181 | 05/11/2001 | Michael Wand | 43-00 | 7222 |

23713 7590 10/24/2002

GREENLEE WINNER AND SULLIVAN P C
5370 MANHATTAN CIRCLE
SUITE 201
BOULDER, CO 80303

EXAMINER

WU, SHEAN CHIU

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

1756

DATE MAILED: 10/24/2002

9

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|-----------------|--------------|--|
| Office Action Summary | Application N . | Applicant(s) | |
| | 09/854,181 | WAND ET AL. | |
| | Examiner | Art Unit | |
| | Shean C Wu | 1756 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 October 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6,8-10,24-30,38-42 and 49-68 is/are pending in the application.
- 4a) Of the above claim(s) 7,11-23,31-37,43-48,69 and 70 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6,8-10,24-30,38-42 and 49-68 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
 If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input checked="" type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>8</u> . | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

1. Claims ⁷~~6~~, 11-23 and 31-37, 43-48 and 69-70 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in Paper No. 7.

2. Applicant's election with traverse of the species of Claim 1 having formula MDW 1228 (see page 62) in Paper No. 7 is acknowledged. The traversal is on the ground(s) that the generic claims 1 and 56 are allowable. This is not found persuasive because the claims 1 and 56 are not allowable.

The requirement is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 USC § 112

3. Claims 1-6, 8, 10, 24-27, 29-30, 38-42, 49-58 and 63-68 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for the carbon chain (1 to 20 carbon atoms) in side group R and R¹, does not reasonably provide enablement for more than 20 carbon atoms. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims. See page 10, line 1 to page 11, line 21.

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4. Claims 1-6, 38-42, 49-57 and 63-68 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In Claims 1 and 56, the R group is not clearly defined because the R can be an ether group is confusing. The left-hand side group is already ether (alkoxy) group (O-R). If R is an ether group then side group is a peroxide R-O-O- group.

Also, in Claim 40, the PDMS group is not defined.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-6, 8-10, 24-30, 38-39 and 51-63 are rejected under 35 U.S.C. 102(b) as being anticipated by Suzuki et al. (US 5,110,497).

The reference discloses an optically active compound represented by formula (I) and a liquid crystal composition containing at least one of the reference optically active compounds. The compound is useful not only as a liquid crystal compound but as a chiral dopant to provide a liquid crystal composition exhibiting a chiral smectic phase. The compounds of Examples 1-2 and claims 1-3 of the reference anticipate the claimed compound. The Example 3 anticipates the claimed composition and its liquid crystal properties.

7. Claims 56-69 and 62 are rejected under 35 U.S.C. 102(b) as being anticipated by CAPLUS 1998: 624749.

The reference discloses a novel compound represented by RN 215929-80-9, which anticipates the claimed compound.

8. Claims 1, 4-6, 8-10, 24-30, 38-39, 41-42 and 56-63 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 8-113784.

The reference discloses a novel compound represented by formula (I) and liquid crystal composition containing the compound, which anticipate the claimed invention (see formula (I) on page 1 and table 1 on page 4 and the liquid crystal composition is shown on page 6).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 2-3 and 49-50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al. (US 5,110,497).

The reference teaching has been previously set forth in section 6 above. The present invention differs from the claims in that the claims have specific liquid crystal

properties such as V-shape switching and high polarization ($P_s > 27$ or 40). The reference did suggest the performance properties including high spontaneous polarization of the liquid crystal materials to improve a high response rate (see col. 1, lines 46-58 and col. 2, lines 38-51). Because the properties of the reference compound (formula I) and suggestion of high spontaneous polarization to improve the response rate, it would have been obvious to those skilled in the art to utilize and optimize the components of the reference compounds to obtain the claimed composition and display device having satisfactory characteristics such as the claimed invention.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The reference CAPLUS 2001: 305417 anticipates the elected species, however, the publication date of the article is later than the priority of the provisional application of 60/229,892. Therefore the elected species is allowable.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shean C Wu whose telephone number is 703-308-3956. The examiner can normally be reached on Monday-Friday 9:30 -6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on 703-308-2464. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-7718 for regular communications and 703-872-9311 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.



Shean C Wu
Primary Examiner
Art Unit 1756

scw

October 23, 2002